BIDP 170M

USER'S MANUAL

REF: M – BIDP 170M – 1.0-GB

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FOREWORD

Purpose of this manual

After a review of the RF identification systems, this manual describes the BIDP 170M (Balogh Profibus interface supporting the DP-V1 extensions) and indicates how to install and use it.

Performance and other features are specified in the BIDP 170M data sheet.

To use the FS-S7M functional block (with PLC S7 3xx or 4xx of Siemens) refer to the specific manual.

Reference of a manual

The generic reference of a manual is:

M - <product name[1)]> - x.y-L where

M means Manual

x is the document version cue

y is a page index (local modification)

L is the used language.

[1)] followed for a functional block by its version number

Updates

Version cue	Page index	Date	Description of updates
1	0	10 may 05	first edition

Symbology

Caution: material at risk

Conditions required for correct operation

Advice for better use

Note

Glossary

GSD = Generic Station Description
LSB = Least Significant Byte
MSB = Most Significant Byte

Note

The information contained in this manual is subject to modification without notice.
The BALOGH company may not be held responsible for the consequences of any errors or omissions nor for any misinterpretation of information.
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1 GENERAL POINTS ABOUT IDENTIFICATION SYSTEMS

The BALOGH identification systems provide the association of information with a physical object. The data regarding this object are stored in an **electronic tag** that is applied to the object or its support.

These data can be remotely read and, in the case of R/W tags, can be changed using an appropriate **read/write head**.

The dialogue between electronic tag and head is managed with a **control board** (interface).

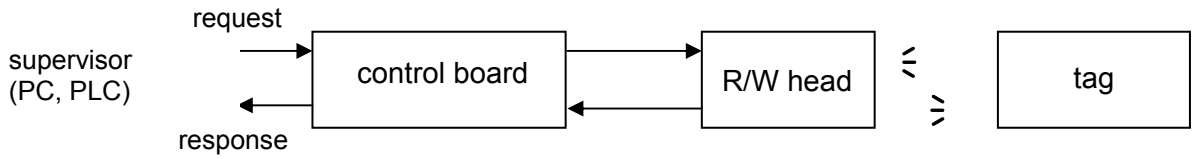
So the read or read-write system consists of two elements:

- an R/W head,
- a control board.

For the R/W head – tag dialogue, two technologies are available:

- inductive technology - electronic tags do not require any supply to communicate; they receive the energy required for operation from the electromagnetic field generated by the R/W head;
- IR technology - the tags are battery-operated for transmission and storage of data in memory.

The control board manages the operation of the R/W head as well as the dialogue with the electronic tag. It processes the data and provides the interface with the supervisor.



Based upon the user's choice and configuration of the application, the products of this range provide:

- parallel access to data,
- access to data by serial connection (RS-422/485 or RS-232) with adapted protocol or field network,
- an interface, programmable by user, allowing the management of local automatic control (sensors, actuators and processing).

A **monoblock** is a hardware combining interface (control board) and transceiver (R/W head) functions.

A **handheld** is portable hardware combining 2 or 3 functions (supervision - interface - transmission).

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2 DESCRIPTION

2.1 GENERAL POINTS

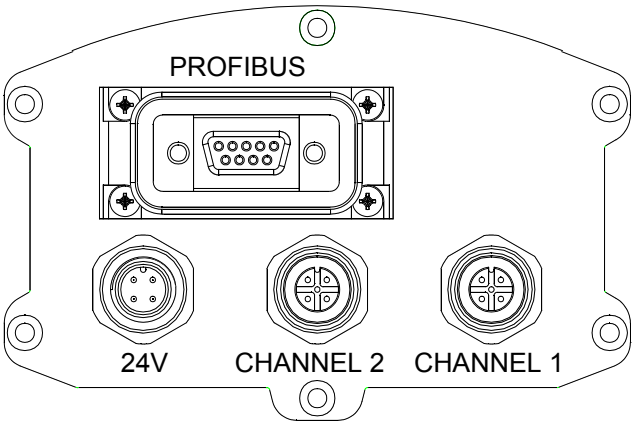
The BIDP 170M is the Balogh 1 or 2 channel RFID interface on the Profibus DP–V1 network.

The electronic card is mounted in an aluminium profile, sealed by two flanges, one carrying the connectors, the other the window for the observation of visual indicators (LEDs).

2.2 CONNECTOR FLANGE

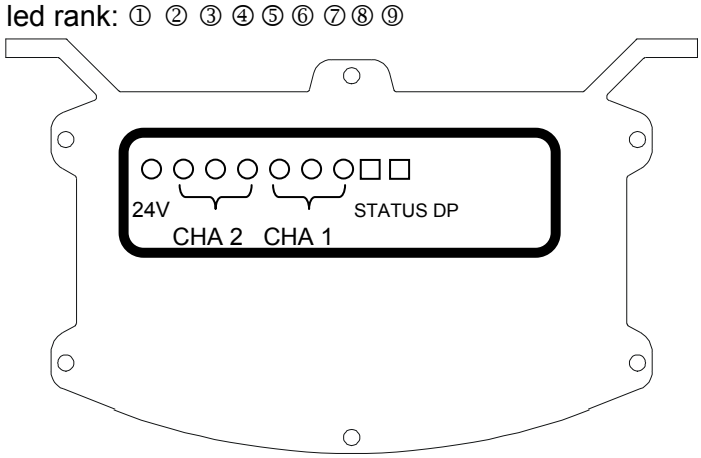
The connector flange provides the connection of:

- a Y-tap on the fixed connector SUB-D 9 ("PROFIBUS"),
- an R/W head to each of the two M12 5-pin sockets ("CHANNEL"),
- a 24VDC power receptacle on the M12 4-pin fixed connector "24V".



Each M12 connector is equipped with a key (A-coding) that prevents any connection error.

2.3 VISUAL INDICATORS FLANGE



The visual indicators (LEDs) are located behind the window (from left to right):

① **LED 24 V:** voltage 24VDC

- **green**, on when the unit is powered.

THREE MONITORING LEDS for each channel 2 ("channel 2"), and 1 ("channel 1"):

②/⑤ **Error** LED *("ERR")*: tag or R/W head fault on the corresponding channel

red, on when a fault is detected on the R/W head and/or tag;

e.g.: broken cable, disconnected R/W head, tag outside the transmission zone during an operation.

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③/⑥ **Presence** LED *("PRE")*: tag present on the corresponding channel
green, on when a tag is in the transmission zone.

④/⑦ **Execution** LED ("*EXE*"): operation in progress on the corresponding channel
green, on when a command was received and is being executed.

When this led is lit, the two other leds are meaningless.

⑧ **A BI-COLOURED LED** monitoring the common electronics:

Network Status LED (*"status DP"*): LED for BIDP network status view

- **green fixed** indicates that the BIDP is ready and the PROFIBUS-DP® interface is initialised
- **green flashing** indicates that the PROFIBUS-DP® connection has not been established (configuration standby)
- **red fixed** indicates an initialisation defect of the PROFIBUS-DP® interface or a defect during an exchange on the bus (blocking defect)
- **red flashing** indicates that the BIDP has been disconnected from the bus after initialisation or the communication on the PROFIBUS-DP® network has been interrupted (non blocking defect).

The last LED (⑨) is only used for maintenance.

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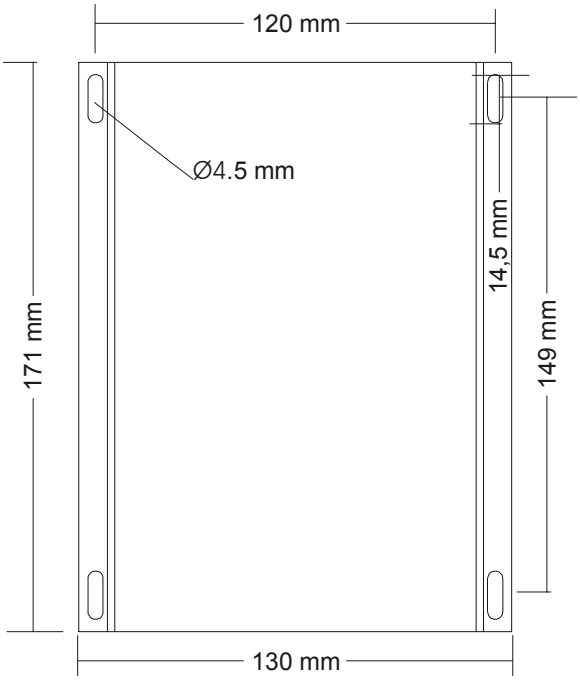
3 INSTALLATION

3.1 UNIT INSTALLATION

The BIDP 170M is housed in a field mount enclosure; vertical position is preferable (LED side upwards).

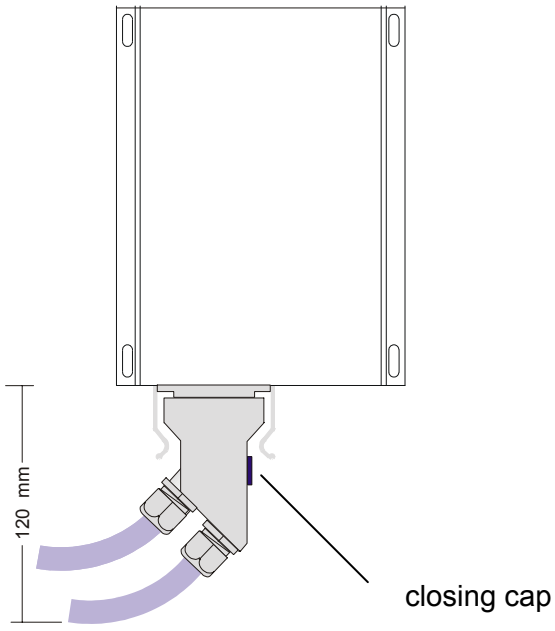
The unit footprint is:



Fasten the BIDP using four screws

The horizontal installation, if chosen, exposes more the connectors to stress and shocks.

Provide a clearance of approximately 120 mm on the connector side:



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3.2 CONFIGURATION

Unscrew the two screws supporting the window and remove it in order to access the microswitch block.
The microswitches # 1 to 7 define the station number (0 to 125):

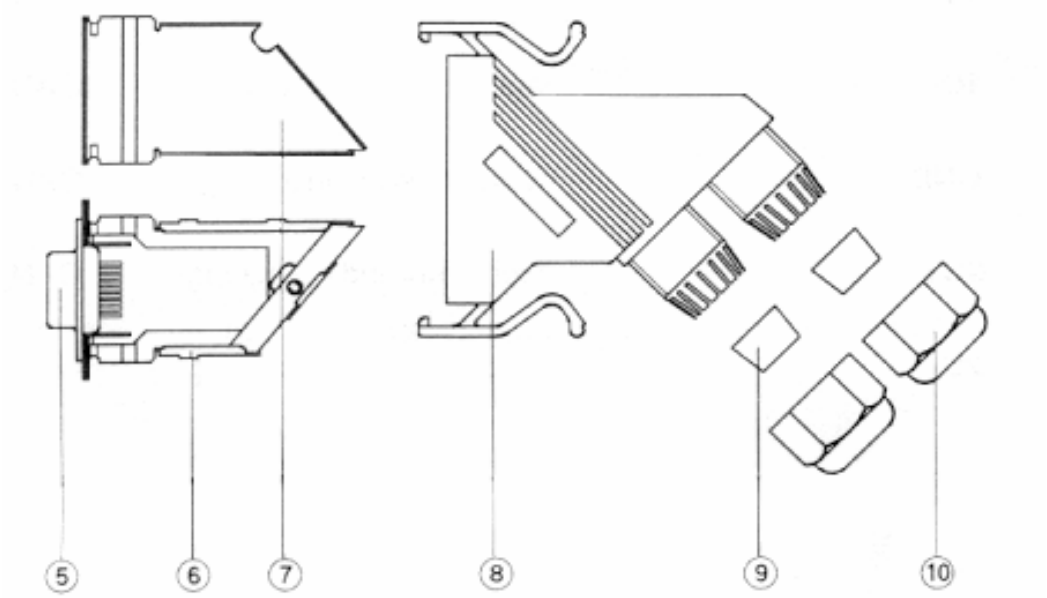
st nr↓ sw→	7	6	5	4	3	2	1
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	OFF	OFF	OFF	ON
2	OFF	OFF	OFF	OFF	OFF	ON	OFF
::::::::::::::	:::::::::::::

3.3 CONNECTIONS

Use the accessories listed in the appended data sheet "Connection accessories".

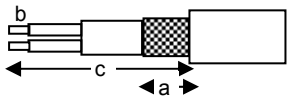
3.3.1 NETWORK LINK

Using parts ⑤ to ⑩ assembly the Y-tap at an angle of 130°:



⑤ D-SUB contact insert
⑥ EMC inner sleeve, lower shell
⑦ EMC inner sleeve, upper shell
⑧ Sleeve housing
⑨ Cable gasket
⑩ Pressure nut

- slide the pressure nuts ⑩ and seals ⑨ over the cables (the seals pointing outwards), slide the cables into the sleeve housing ⑧; at the network end close the outgoing cable opening by inserting the cover cap (head outside) and tightening the pressure nut thoroughly,
- connect the cables internally:



  - remove the lower (resp. upper) cable sheath to length c = 25 (resp. 38) mm
  - cut the cable shield to length a = 11 (resp. 16) mm
  - strip the cores to length b = 5 mm
  - connect the cores at the terminals of the circuit attached to ⑤ in acc. with the table:

marking	RS485 signal	cable	wire color
1A	A	incoming	green
1B	B	incoming	red
2A	A	outgoing	green
2B	B	outgoing	red

- assembly the EMC inner sleeve:
  - position contact insert ⑤ in the lower shell ⑥ of the EMC inner sleeve ⑥ + ⑦,
  - screw cable shield with the clamping bar,
  - snap on upper shell ⑦ checking that the contact insert and the cables are correctly positioned,

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- push the contact insert back into the sleeve housing and fix using self-tapping screws,
- push the seals ⑨ into the screw connections as far as they will go and tighten pressure nuts ⑩,
- open the closing cap (shown on page 4) and move the switch to the desired position using a suitable tool, in accordance with the table:

Position	Marking	Terminating, pull-up & pull-down resistors
to BIDP	ON	active
to network	OFF	not connected

- fasten the closing cap with due care to guarantee that it is tightly sealed.

  At last secure the sleeve housing on the fixed connector ("push-pull").

3.3.2 R/W HEAD CONNECTION

The shield connection depends on the used cable (the R/W head data sheets specify this cable):

- cables with overall shield: the overall shield must compulsorily be in contact over 360° to the metallic cable connector housing.
- cables with overall shield + shielded pairs: the overall shield must compulsorily be in contact over 360° to the metallic cable connector housing, while the pair shields are connected to pin 5 (optional);
- cables with shielded pairs, without overall shield: the pair shields must be connected to the metallic cable connector housing.

For this purpose several cordsets are proposed by Balogh:

- M12 double-ended cordsets,
- M12 single-ended (BIDP end) cordsets.

Refer to the appended data sheet Connection accessories.

3.3.3 POWER SUPPLY CONNECTION

Refer to the appended data sheet Connection accessories for the cordset specification.
The wire colours of the cordset proposed by Balogh are the following:

Connector	Power supply	
pin nr	descr.	colour
1	+24VDC	brown
2, 3	nc	
4	0 V	blue

Refer to the BIDP data sheet for the voltage specifications.

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4 OPERATIONAL PRINCIPLE

4.1 STATION TYPES

Class-1 master (DPM1): PLC or PC exchanging cyclically data with distant DP slaves; it is permanently connected to the network.

Class-2 master (DPM2): network engineering / configuration tool (commissioning, maintenance, troubleshooting); it is **not** permanently connected to the network.

The BIDP 170M does **not** handle communications with class-2 masters.

The master uses the FS-S7M functional block to handle the request frame assembly / forwarding, and the data reception as well.

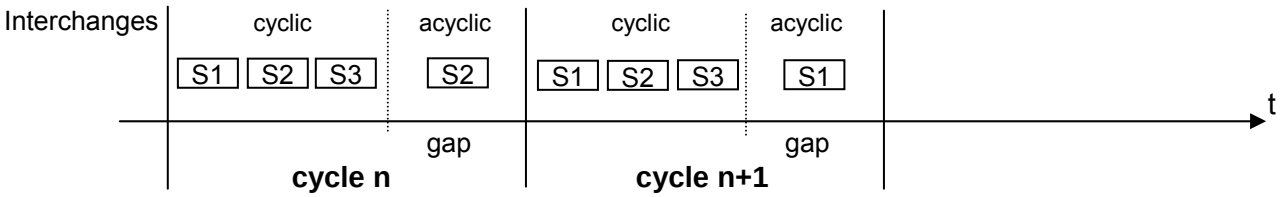
Main functions of the block:

- it handles the master addresses where are stored the data to write (to the tag) and the storage addresses of the data to read (from the tag),
- it synchronises the master with the BIDP using the execution bit provided cyclically by the BIDP in the channel status.

4.2 DATA INTERCHANGE MODES

At each cycle the master first of all interchanges cyclic data with **all** the slaves (cyclic mode). Then it can send an acyclic message to **one** slave (acyclic mode) when needed.

Example: a master communicates with three slaves (S1, S2, S3) over Profibus DP:



4.2.1 CYCLIC MODE

The cyclic mode is used by the BIDP 170M to transmit both channel statuses to the DPM1:

- channel 1 status in byte #1,
- channel 2 status in byte #2.

Therefore the inputs size is 2 bytes.

4.2.2 ACYCLIC MODE

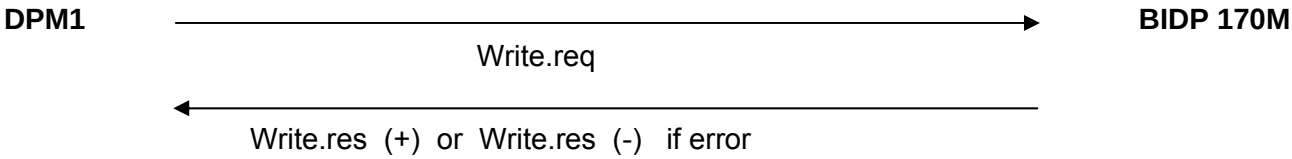
In the acyclic mode the master transmits tag reading/writing requests and retrieves data.

In this mode the frames length cannot exceed 244 bytes (header: 4 bytes, body: 240 bytes).

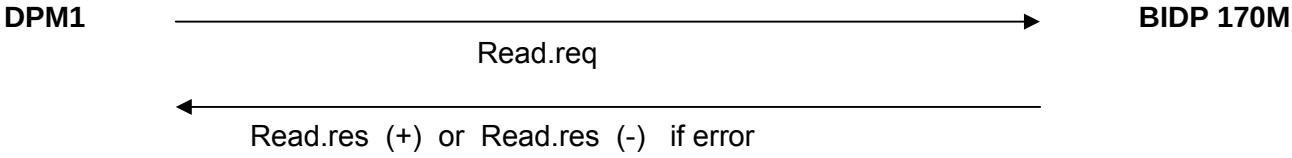
Messages length can be variable.

The BIDP 170M supports only two services:

· Service of **writing** (MSAC1_Write) by DPM1 of a data block to the slave unit:



· Service of **reading** (MSAC1_Read) by DPM1 of a data block from the slave unit:



Whether it is a reading or a writing service the data block are addressed through slot and index: the slot number indicates the channel number, while the index is used for frames numbering (for multi-frame interchanges).

4.3 GENERIC FRAMES

Previously described services are used to send various requests to the BIDP 170M.

Data transfer to the BIDP 170M (writing):

This kind of request is used to send to the BIDP 170M a command to read from / write to a tag and auxiliary functions as well.

REQUEST: first frame (broken down into bytes):

Header (4 bytes)				**Body** (n+7 bytes)										
command code	slot	index	# of bytes in the body	function code	tag block length		block start address		timeout		data			
Write Req	channel nr	frame nr	n +7 ≤ 240		MSB	LSB	MSB	LSB	MSB	LSB	no. 1	...	no. n	

5Fh

1 (channel 1)
2 (channel 2)

01 : writing
02 : reading, etc

for writing to tag

in tens of ms (1 to 65 535)

When the timeout is expired and the request is still on, the request stops, which generates the error code of 15.

Request with wait: timeout = 0.

MSB : Most Significant Byte
LSB : Least Significant Byte

Positive ACKNOWLEDGMENT:

Header (4 bytes)			
command code	slot	index	-
Write Res	channel nr	frame nr	0

5Fh

Negative ACKNOWLEDGMENT (error):

Header (4 bytes)			
command code	error decode	error codes	
Write Res	80h	no.1	no.2

DFh

Profibus DPV1 cue

refer to the table in Technical Guideline Extensions to EN 50170

user specific

For requests with more than 233 bytes, the master must send as many supplementary frames as needed to transmit all the data.

To distinguish between the various frames, it increments every time the index (0 … 255).

Request for data transfer to the master (reading):

The request is only used to retrieve read data after a tag reading command; therefore the frame has no body.

To read a number of bytes over 233 the master must send as many supplementary frames as needed to read all data.

To distinguish between the various frames, it increments every time the index (0 … 255).

REQUEST: frame broken down into bytes:

Header (4 bytes)			
command code	slot	index	# of data to read
Read Req	channel nr	frame nr	n ≤ 240

⇩ 5Eh

Positive ACKNOWLEDGMENT:

Header (4 bytes)				**Body**		
Read Res code	slot	index	# of bytes in the body	data		
Read Res	channel nr	frame nr	n ≤ 240	no. 1	...	no. n

⇩ 5Eh

Negative ACKNOWLEDGMENT (error):

Header (4 bytes)			
command code	error decode	error codes	
Read Res	80h	no.1	no.2

⇩ DEh ⇩ Profibus DPV1 cue ⇩ refer to the table in Technical Guideline Extensions to EN 50170 ⇩ user specific

5 COMMANDS DESCRIPTION

5.1 WRITING TO A TAG

Let us write a block of 1 to 16 Kbytes.

First request frame (sole frame if block length ≤ 233); it is broken down into bytes:

Header (4 bytes)				**Body**									
Write Req code	channel slot	frame index	# of bytes in the body	function code	tag block length		start address		timeout		data		
5Fh	1or 2	0	7+ n ≤ 240	**01**	MSB	LSB	MSB	LSB	MSB	LSB	no. 1	...	no. n

Subsequent frame containing m data (m ≤ 239):

Header (4 bytes)				**Body**			
Write Req code	channel slot	frame index	# of bytes in the body	function code	data		
5Fh	1 or 2	1	1+m ≤ 240	**01**	no. (n+1)	...	no. (n+m)

etc, by incrementing the frame index.

5.2 READING FROM A TAG

Let us read a block of 1 to 16 Kbytes.

Request frame (broken down into bytes):

Header (4 bytes)				**Body**						
Write Req code	channel slot	frame index	# of bytes in the body	function code	tag block length		start address		timeout	
5Fh	1or 2	0	7	**02**	MSB	LSB	MSB	LSB	MSB	LSB

Data retrieval request:

Header (4 bytes)			
Read Req code	channel slot	frame index	# of data to read
5Eh	1 or 2	0	$n \leq 240$

Note: # of data to read ≡ tag block length.

Response (sole frame if # of read data ≤ 240):

Header (4 bytes)				**Body**		
Read Res code	channel slot	frame index	# of bytes in the body	data		
5Eh	1 or 2	0	$n \leq 240$	no. 1	...	no. n

Subsequent frame(s) if # of read data > 240:

Header (4 bytes)				**Body**		
Read Res code	channel slot	frame index	# of bytes in the body	data		
5Eh	1 or 2	1	$n \leq 240$	no. (n+1)	...	no. (2n)

etc, by incrementing the frame index.

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5.3 DISCONTINUOUS WRITING

Let us write 2 … 4 blocks for a maximum cumulated number of bytes equal to 217:

Header (4 bytes)				**Body**											
Write Req code	channel slot	frame index	# of bytes in the body	function code	-	-	-	-	timeout			lg_1	start address1		
5Fh	1 or 2	0	$23+lg_1+...+lg_4$	**06**	n.u.	n.u.	n.u.	n.u.	MSB	LSB	0	n_1	MSB	LSB	

Body															
	lg_2	start address 2			lg_3	start address 3			lg_4	start address 4		data 1	....	....	data 4	.....
0	n_2	MSB	LSB	0	n_3	MSB	LSB	0	n_4	MSB	LSB					

5.4 DISCONTINUOUS READING

Let us read 2 … 4 blocks for a maximum cumulated number of bytes equal to 240:

Header (4 bytes)				**Body**																
Write Req code	channel slot	frame index	# of bytes in the body	function code	-	-	-	-	timeout			lg_1	start address1		...		lg_4	start address 4		
5Fh	1 or 2	0	23	**03**	n.u.	n.u.	n.u.	n.u.	MSB	LSB	0	n_1	MSB	LSB		0	n_4	MSB	LSB	

5.5 BLANKING

Let us write the same data (blanking value) to a zone (1 to 16 Kbytes):

Header (4 bytes)				**Body**							
Write Req code	channel slot	frame index	# of bytes in the body	function code	filled block length		start address		timeout		blanking value
5Fh	1or 2	0	8	**04**	MSB	LSB	MSB	LSB	MSB	LSB	0...255

5.6 RESET

Let us cancel the function in progress on the channel selected by the slot number:

Header (4 bytes)				**Body**
Write Req code	channel slot	frame index	# of bytes in the body	function code
5Fh	1 or 2	0	1	**05**

5.7 DISABLING AN R/W HEAD

If two neighbouring heads may interfere on each other, the master can request to disable (0) then re-energize (255) either head (selected by the slot number):

Header (4 bytes)				**Body**							
Write Req code	channel slot	frame index	# of bytes in the body	function code	-		-		-		operation
5Fh	1or 2	0	8	**07**	n.u.	n.u.	n.u.	n.u.	n.u.	n.u.	0 or 255

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Appendix 1 - BAL08E9.gsd file

```
;===============================================================
; BALOGH
; BIDP170M  GSD FILE
; Date 31/05/05
;===============================================================
;
#Profibus_DP
GSD_Revision=3

Vendor_Name = "BALOGH S. A."
Model_Name = "BIDP170M"
Revision = "Revision 1"
Ident_Number = 0x08E9
Protocol_Ident = 0
Station_Type = 0
FMS_supp = 0
Hardware_Release = "REV 1.1"
Software_Release = "REV 1.1"
9.6_supp = 1
19.2_supp = 1
45.45_supp = 1
93.75_supp = 1
187.5_supp = 1
500_supp = 1
1.5M_supp = 1
3M_supp=1
6M_supp=1
12M_supp=1
MaxTsdr_9.6 = 15
MaxTsdr_19.2 = 15
MaxTsdr_45.45 = 15
MaxTsdr_93.75 = 15
MaxTsdr_187.5 = 15
MaxTsdr_500 = 15
MaxTsdr_1.5M = 25
MaxTsdr_3M = 50
MaxTsdr_6M = 100
MaxTsdr_12M = 200
Redundancy = 0
Repeater_Ctrl_Sig = 2
24V_Pins = 0
Bitmap_Device = "BIDP170M"
Slave_Family=11@TdF@BALOGH

;
```


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```
;--Slave keys
;
Freeze_Mode_supp = 1
Sync_Mode_supp = 1
Auto_Baud_supp = 1
Set_Slave_Add_supp = 0
Min_Slave_Intervall = 1
Modular_Station = 0
Max_Diag_Data_Len = 6
User_Prm_Data_Len=3
User_Prm_Data = 0x80,0x00,0x00
;
;
; Slave-Specification:
;
DPV1_Slave = 1
C1_Read_Write_supp = 1
C2_Read_Write_supp = 0
C1_Max_Data_Len = 240
C2_Max_Data_Len = 0
C1_Response_Timeout = 1
C1_Read_Write_required = 0
C2_Read_Write_required = 0
C2_Max_Count_Channels = 0
Max_Initiate_PDU_Length = 0
Diagnostic_Alarm_supp = 0
Process_Alarm_supp = 0
Pull_Plug_Alarm_supp = 0
Status_Alarm_supp = 0
Update_Alarm_supp = 0
Manufacturer_Specific_Alarm_supp = 0
Extra_Alarm_SAP_supp = 0
Alarm_Sequence_Mode_Count = 0
Alarm_Type_Mode_supp = 0
Diagnostic_Alarm_required = 0
Process_Alarm_required = 0
Pull_Plug_Alarm_required = 0
Status_Alarm_required = 0
Update_Alarm_required = 0
Manufacturer_Specific_Alarm_required = 0
DPV1_Data_Types = 0
WD_Base_1ms_supp = 0
Check_Cfg_Mode = 0
Fail_Safe_required = 0
Publisher_supp = 0
;
Module="Channel (one byte in)" 0x10,0x10
1
EndModule
```

Appendix 2 – Tag addressing

Tag designation	Suffix	Memory type	Capacity (bytes)	Address range (word)
OF	F	EEPROM	7	0 - 3 h
OMA	A	internal FRAM	64	400 h - 41F h
OMA/2K	A	external FRAM internal FRAM	2 K 64	0 - 3FF h 400 h - 41F h
OMA/8K	A	internal FRAM external FRAM	64 8 K	400 h - 41F h 1000 h - 1FFF h
OMX931/8K	X	FRAM	8 K	0 - FFF h
OMX931/32K	X	FRAM	32 K	0 - 3FFF h
OIR/OIB	R	RAM	64 K	0 - 7FFF h
GIE	E	FRAM	512	0 - FF h
GIE	E	FRAM	2 K	0 - 3FF h
GIE	E	FRAM	8 K	1000 h - 1FFF h
F#/32	J	EEPROM	32 bits / 5	0 - 2 h
E#/116	V	EEPROM	64 accessible per block of 4	0 - 1F h (reading) 6 h - 25 h (writing)
TAI	Ic	EEPROM	48 accessible per block of 4	8 h -1E h and even
TAF	Fc	FRAM	2 k accessible per block of 8	0 - 3E6 h multiple of 4

BALOGH SA, 189 rue d'Aubervilliers C.P. 97 75886 PARIS Cedex 18 FRANCE
subject to modification – Doc. ref.: **M – BIDP170M – 1.0-GB**

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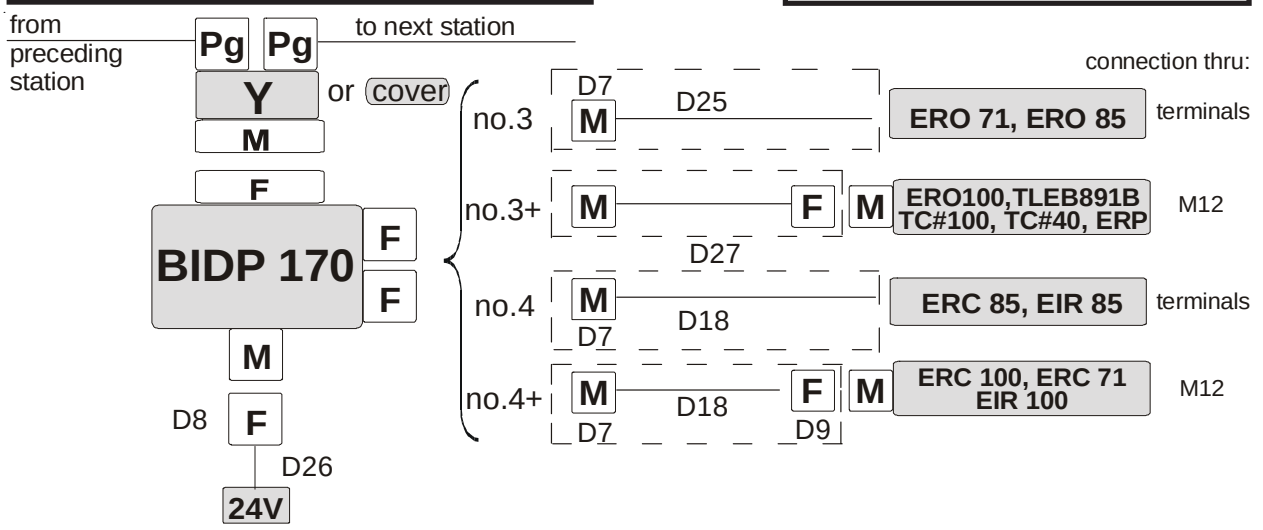
IDENTIFICATION SYSTEMS

BIDP 170(M)

Connection accessories



Characteristics

Mark	Item	Dimension	Description	Outer jacket	Part-No.
D7	cable connector	M12	5 pins, PG9 output for Ø9 max., shieldable		202 237
D8	cable connector	M12	4 pins, PG9 output for Ø9 max.		202 239
D9	cable connector	M12	5 pins, PG9 output for Ø9 max., shieldable		202 274
D17	Profibus cable	5 m	2 leads, shielded	purple PVC	202 261
D18	ERC / EIR cable	Ø 8	2 x 2 x 0.22², Ø 8, screened pairs with drain	gray PVC	202 238
D25	ERO cable	5 m, Ø 6	4 x 0.5², Ø 6, braid shield	gray PVC	201 282
D26	power cable	5 m, Ø 6.8	2 x 1²	gray PVC	202 240
D27	ERO / TC# cord	5 m, Ø 6	5 x 0.34², braid shield, two M12 overmolded	black PUR	
Y	130°-angled Y-tap		SUB-D9 plug, two PG11 stuffing boxes		202 911
cover	plug	Ø 6 x 17	hollow cap		

Reference numbers for orders

	Item	Content	Reference no.
Conn.	202 911	Y	495XXB4469
CORD SETS	no.3	5 m - long cord D7, D25	495XXB4347
	double no.3	two 5 m - long cords D7, D25	495XXB4341
	no.3+	5 m - long cord D27	495XXB4512
	no.4	5 m - long cord D7, D18	495XXB4352
	double no.4	two 5 m - long cords D7, D18	495XXB4342
	no.4+	15 m - long cord D7, D9, D18	495XXB4361

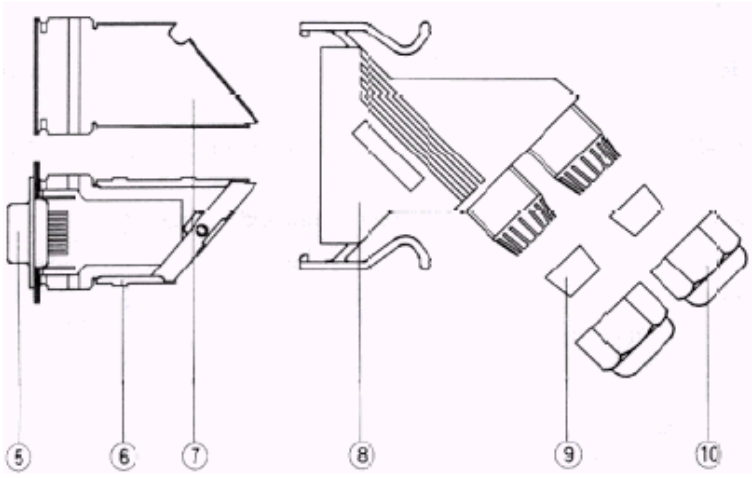
Correspondence

between pin no. and wire colour
for
R/W heads connected by terminals

V: 24V, S : output, E : input, O : 0V

BIDP R/W heads →	ERO / ERP		ERC / EIR	
pin no.	description	colour	description	colour
1	V	brown	V	red
2	S	gren	S	black
3	E	yellow	E	black
4	O	white	O	white

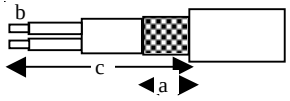
NETWORK CONNECTION



⑤ D-SUB contact insert
⑥ EMC inner sleeve, lower shell
⑦ EMC inner sleeve, upper shell
⑧ Sleeve housing
⑨ Cable gasket
⑩ Pressure nut

Assembly the sleeve housing ⑧:

- slide the pressure nuts ⑩ and seals ⑨ over the cables (the seals pointing outwards), slide the cables into the sleeve housing ⑧; at the network end close the outgoing cable opening by inserting the cover cap (head outside) and tightening the pressure nut thoroughly,



- connect the cables internally:
  - remove the lower (resp. upper) cable sheath to length c = 25 (resp. 38) mm
  - cut the cable shield to length a = 11 (resp. 16) mm
  - strip the cores to length b = 5 mm
  - connect the cores at the terminals of the circuit attached to ⑤ in accordance with the table:

Marking	RS-485 signal	Cable	Wire colour
1A	A	incoming	green
1B	B	incoming	red
2A	A	outgoing	green
2B	B	outgoing	red

- assembly the EMC inner sleeve:
  - position contact insert ⑤ in the lower shell ⑥ of the EMC inner sleeve ⑥ + ⑦,
  - screw cable shield with the clamping bar,
  - snap on upper shell ⑦ checking that the contact insert and the cables are correctly positioned,
- push the contact insert back into the sleeve housing and fix using self-tapping screws,
- push the seals ⑨ into the screw connections as far as they will go and tighten pressure nuts ⑩.

Configure the switch: open the closing cap and move the switch to the desired position using a suitable tool, in accordance with the table:

Position	Marking	Terminating & bias resistors
to BIDP	ON	active
to network	OFF	not connected

Fasten the closing cap with due care to guarantee that it is tightly sealed.

Secure the sleeve housing on the fixed connector (“push-pull”).

Note: 5VDC is supplied by BIDP to energize the network terminating resistor.